



Attorney Docket: S00-085

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application Number: 09/821,701

Filing Date: 3/28/01

Applicants: Chou, et al.

Application Title: Multiple Channel Optical Frequency Mixers for All-Optical Signal Processing

Art Unit: 2661

|  |                     |
|--|---------------------|
| I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST CLASS MAIL ON THE DATE INDICATED BELOW AND IS ADDRESSED TO: COMMISSIONER OF PATENTS AND TRADEMARKS, WASHINGTON, DC 20231. DATE OF DEPOSIT <u>7/31/01</u> |                     |
| SIGNED <u>Monica Turner</u>  | DATE <u>7/31/01</u> |
| NAME OF PERSON MAKING DEPOSIT  |                     |

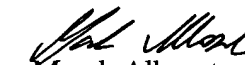
CORRECTION REQUEST

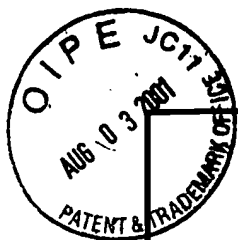
Commissioner of Patents and Trademarks  
Washington, DC 20231

Dear Sir:

Kindly add Appl. No. 60/266,383 filed on 2/1/2001 as a benefit, as claimed on the original application as indicated on the enclosed copy of the filing receipt.

Very respectfully,

  
Marek Alboszta  
Reg. No. 39,894



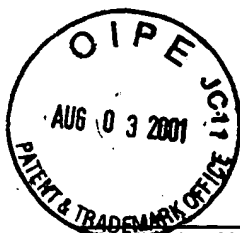
Receipt  
3

|  |  |             |
|--|--|-------------|
| <b>TRANSMITTAL<br/>FORM</b><br><br>(for all correspondence after initial filing) | Attorney Docket No. <b>S00-085</b>             | Total Pages |
|  | Application Number<br><b>09/821,701</b>        |             |
|  | Filing Date<br><b>3/28/01</b>                  |             |
|  | First Named Inventor<br><b>MING-HSIEN CHOU</b> |             |
|  | Group Art Unit<br><b>2661</b>                  |             |
|  | Examiner<br><b>NOT ASSIGNED</b>                |             |

| ENCLOSURES (check all that apply)                                      |   |
|--|---|
| <input checked="" type="checkbox"/> Return Receipt Postcard (MPEP 503) | <input checked="" type="checkbox"/> Response to Notice of Missing Parts   |
| <input checked="" type="checkbox"/> Fee Transmittal Form               | <input checked="" type="checkbox"/> Small Entity Statement                |
| <input checked="" type="checkbox"/> Fee Attached                       | <input checked="" type="checkbox"/> Declaration by Inventors              |
| <input type="checkbox"/> Response/Amendment                            | <input checked="" type="checkbox"/> Assignment papers                     |
| <input type="checkbox"/> After Final Rejection                         | <input checked="" type="checkbox"/> Power of Attorney by Assignee         |
| <input type="checkbox"/> After Allowance communication to Group        | <input type="checkbox"/> IDS/PTO-1449                                     |
| <input type="checkbox"/> with Corrected Drawing(s) Total Sheets: [ ]   | <input type="checkbox"/> with copies of cited references                  |
| <input type="checkbox"/> with Affidavits/Declarations                  | <input type="checkbox"/> New Power of Attorney and Revocation of Old      |
| <input type="checkbox"/> Extension of Time Request                     | <input type="checkbox"/> Change of Correspondence Address                 |
| <input type="checkbox"/> Express Abandonment Request                   | <input checked="" type="checkbox"/> Other: <b>Data Correction Request</b> |

| SIGNATURE OF AGENT |  |
|--------------------|--|
| NAME               | <b>MAREK ALBOSZTA, REG. NO. 39,894</b> |
| Signature          | <i>Marek Alboszt</i>                   |
| Date               | <b>31 July 2001</b>                    |

| Certificate of Mailing by "Regular Mail"   |                                    |
|--|------------------------------------|
| I hereby certify that this correspondence is being deposited on the date indicated below as first class mail with the U.S. Postal Service addressed to the ASSISTANT COMMISSIONER FOR PATENTS, WASHINGTON, DC 20231. |                                    |
| <i>Monica Turner</i><br>SIGNATURE  | DATE OF MAILING:<br><b>7/31/01</b> |
| <b>Monica Turner</b><br>NAME OF PERSON SIGNING   |                                    |

**FEE TRANSMITTAL**

|                       |   |
|-----------------------|---|
| Application Number:   | 09/821,701  |
| Filing Date:          | 3/28/01   |
| First Named Inventor: | Ch u, et al.  |
| Title of Invention:   | Multiple Channel Optical Frequency Mixers f r All-Optical Signal Processing |
| Group Art Unit:       | 2661  |
| Examiner:             | Not assigned  |
| Attorney Docket No.:  | S00-085   |

**Fee Calculation:**for ☐ Large Entity / ☒ Small Entity.**Basic Billing Fee:**

|   |               |       |
|---|---------------|-------|
| <input checked="" type="checkbox"/> Utility Patent Application: | \$710 / \$355 | \$355 |
| <input type="checkbox"/> Provisional Patent Application:        | \$150 / \$75  | \$    |

**Claims:**

|   |                 |       |
|---|-----------------|-------|
| <input checked="" type="checkbox"/> Number of Total Claims Over 20: [33]  | x \$18 / \$9 =  | \$297 |
| <input checked="" type="checkbox"/> No. of Independent Claims Over 3: [1] | x \$80 / \$40 = | \$40  |

**Other Fees:**

|   |                |      |
|---|----------------|------|
| <input type="checkbox"/> Extension of time, 1 month                               | \$110 / \$55   | \$   |
| <input type="checkbox"/> Extension of time, 2 months                              | \$390 / \$195  | \$   |
| <input type="checkbox"/> Extension of time, 3 months                              | \$890 / \$445  | \$   |
| <input type="checkbox"/> Extension of time, 4 months                              | \$1390 / \$695 | \$   |
| <input checked="" type="checkbox"/> Missing Parts Surcharge (Regular Application) | \$130 / \$65   | \$65 |
| <input type="checkbox"/> Missing Parts Surcharge (Provisional Application)        | \$50 / \$25    | \$   |
| <input checked="" type="checkbox"/> Recordation of Assignment Document            | \$40           | \$40 |
| <input type="checkbox"/> Issue Fee  | \$1240 / \$620 | \$   |
| <input type="checkbox"/> Printed Patent; Number of Copies: [ ]                    | x \$3 =        | \$   |

**TOTAL PAYMENT:** \$797**Method of Payment:**☒ Payment Enclosed☐ Check**Signature of Applicant, Attorney, or Agent**  
Marek Albosztka, Reg. No. 39,894

Date

31 July 2001



UNITED STATES PATENT AND TRADEMARK OFFICE

 COMMISSIONER FOR PATENTS  
 UNITED STATES PATENT AND TRADEMARK OFFICE  
 WASHINGTON, D.C. 20231  
 www.uspto.gov

| APPLICATION NUMBER | FILING/RECEIPT DATE | FIRST NAMED APPLICANT | ATTORNEY DOCKET NUMBER |
|--------------------|---------------------|-----------------------|------------------------|
| 09/821,701         | 03/28/2001          | Ming-Hsien Chou       | S00-085                |

CONFIRMATION NO. 9212

## FORMALITIES LETTER



\*OC000000006137400\*

 MAREK ALBOSZTA  
 LUMEN INTELLECTUAL PROPERTY SERVICES  
 45 CABOT AVENUE, SUITE 110  
 SANTA CLARA, CA 95051

Date Mailed: 06/01/2001

## NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

## Filing Date Granted

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items and pay any fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The statutory basic filing fee is missing.  
*Applicant must submit \$ 710 to complete the basic filing fee and/or file a small entity statement claiming such status (37 CFR 1.27).*
- Total additional claim fee(s) for this application is \$674.
  - \$594 for 33 total claims over 20.
  - \$80 for 1 independent claims over 3 .
- The oath or declaration is missing.  
*A properly signed oath or declaration in compliance with 37 CFR 1.63, identifying the application by the above Application Number and Filing Date, is required.*
- To avoid abandonment, a late filing fee or oath or declaration surcharge as set forth in 37 CFR 1.16(e) of \$130 for a non-small entity, must be submitted with the missing items identified in this letter.
- **The balance due by applicant is \$ 1514.**

*A copy of this notice **MUST** be returned with the reply.*

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Initial Patent Examination Division (703) 308-1202

PART 2 - COPY TO BE RETURNED WITH RESPONSE

08/07/2001 KZEWDIE 00000010 09821701

355.00 OP  
40.00 OP  
297.00 OP  
65.00 OP

01 FC:201  
02 FC:202  
03 FC:203  
04 FC:205



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# UNITED STATES PATENT AND TRADEMARK OFFICE

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WASHINGTON, D.C. 20231  
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| APPLICATION NUMBER | FILING DATE | GRP ART UNIT | FIL FEE REC'D | ATTY. DOCKET NO | DRAWINGS | TOT CLAIMS | IND CLAIMS |
|--------------------|-------------|--------------|---------------|-----------------|----------|------------|------------|
| 09/821,701         | 03/28/2001  | 2661         | 0.00          | S00-085         | 8        | 53         | 4          |

CONFIRMATION NO. 9212

## FILING RECEIPT



\*OC00000006137399\*

MAREK ALBOSZTA  
LUMEN INTELLECTUAL PROPERTY SERVICES  
45 CABOT AVENUE, SUITE 110  
SANTA CLARA, CA 95051

Date Mailed: 06/01/2001

Receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Customer Service Center. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

### Applicant(s)

Ming-Hsien Chou, Residence Not Provided;  
Krishnan Parameswaran, Residence Not Provided;  
Martin M. Fejer, Residence Not Provided;

### Domestic Priority data as claimed by applicant

THIS APPLN CLAIMS BENEFIT OF 60/206,874 05/24/2000

THIS APPLN CLAIMS BENEFIT OF 60/266,383 2/1/2001

### Foreign Applications

Projected Publication Date: To Be Determined - pending completion of Missing Parts

Non-Publication Request: No

Early Publication Request: No

### Title

Multiple channel optical frequency mixers for all-optical signal processing

### Preliminary Class



Patent Application of

5     1     Ming-Hsien Chou, Krishnan Parameswaran and Martin M. Fejer

for

10     Multiple Channel Optical Frequency Mixers for All-Optical Signal  
Processing

**RELATED APPLICATIONS**

15     This application claims priority from Provisional Patent  
Application 60/206,874 filed on 5/24/2000 and from Provisional  
Patent Application entitled "Multiple Channel Optical Frequency  
Mixers for All-Optical Signal Processing" filed on 2/1/2001,  
both of which are incorporated herein by reference.

**FIELD OF THE INVENTION**

20     The present invention relates generally to multi-channel optical  
frequency mixers using quasi-phase-matching for all-optical  
signal processing, and in particular to quasi-phase-matching  
gratings engineered to have multiple quasi-phase-matched  
channels for performing frequency mixing operations.

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**BACKGROUND OF THE INVENTION**

The drive for robust, high-capacity information networks has  
resulted in many advances in the field of optical signal routing  
and processing. While most local networks still rely on